ABSTRACT OF THE DISCLOSURE

[023] A system and method for controlling the temperature of a heat-generating

component such as a laser. A microelectromechanical system for controlling the

temperature of the heat-generating component includes a magnetic heat sink device, a

temperature sensor, and control circuitry. The temperature sensor detects the

temperature of the heat-generating component through the heat sink and feeds the

sensed temperature to the control circuitry. The detected temperature is compared to a

predetermined temperature set point. When the detected temperature is higher than the

temperature set point, a command is sent to the magnetic heat sink to take more heat out

of the heat-generating component. When the detected temperature is lower than the

temperature set point, a command is sent to the magnetic heat sink to take less heat out

of the heat-generating component. One embodiment of a magnetic heat sink device

includes a laser system, an actuator system, and a heat sink material disposed between

the laser system and the actuator system.

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